REMARKS

Status of the Claims

Claims 1-21 are pending in this application.

Claims 1-21 are rejected.

Claims 1, 10, and 16 have been amended. Support for these amendments can be found throughout the specification, claims, and drawings, as originally filed.

Rejection of Claims 1-21 Under 35 U.S.C. § 112

Claims 1-21 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Office Action states that with regard to claims 1, 10, and 16, it is unclear how each claim is intended to read on the specification, and that each claim is thus indefinite. Applicant notes that claims 1, 10, and 16 have been amended to recite, *inter alia*, said fluid control body including a central cavity, and having a pressure supply passage and a radially extending pressure control passage. The feature of having the pressure supply passage "at a first end" of the central cavity has been changed to simply state that the central cavity has a pressure supply passage. Furthermore the claims have been amended to reflect that the feed supply tube forms the supply passage in the central bore. This is also explained in the specification in paragraph 32 and in Figures 3, 6, 7, and 8.

Applicant believes this rejection has been obviated. Applicant believes that no new matter has been added.

Rejection of Claims 1-3, 9, 16-18, 20, and 21 Under 35 U.S.C. § 103

Claims 1 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,807,846 issued to Greiner et al. (hereafter Greiner '846). In order for the proposed references to be relied upon, a person having ordinary skill in the art at the time of the invention must have been motivated to modify the references based upon the teachings of those references. The Applicant requests reconsideration of the rejection based on the following remarks.

To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the applied reference must teach or suggest all the claim limitations.

Claim 1 of the present invention includes a feed supply tube which has a valve seat receiving area and a valve seat portion which is press fit onto the valve seat receiving area. Claim 1 also states, *inter alia*, a valve receiving chamber formed by said valve seat portion and said valve seat receiving area. The valve receiving chamber is formed by press-fitting the valve seat portion onto the feed supply tube. Greiner '846 does not teach or suggest these features. The Office action states that Greiner '846 has a feed supply tube, designated by the number 40, and a pressure control passage designated by the number 50. The Office action also states that Greiner '846 includes a valve seat portion 17 press fit into the control body, the valve seat portion 17 having a valve seat 23, and a valve 26, 28, 29.

Claim 1 recites, *inter alia*, a valve is positioned in the valve receiving chamber. Greiner '846 does not teach or suggest a valve positioned in the valve receiving

chamber. Greiner '846 teaches a valve seat 23 and valve member 29 located at the bottom of the valve seat body 17 in Figure 1. The valve seat 23 and valve member 29 of Greiner '846 are not located in a valve receiving chamber formed by a press fit between the valve seat portion and valve seat receiving area. Greiner '846 teaches the valve seat 23 and valve member 29 are not anywhere near the press fit of what the office action has identified as the valve seat portion 17 and feed tube 40, which includes the valve receiving area according to the claims of the present application. Therefore Applicant maintains that Greiner '846 fails to teach or suggest all of the limitations of claim 1 of the present application.

Additionally, Greiner '846 does not teach or suggest the feed supply tube being supported in said central cavity of said fluid control body by at least one flying buttress structure as set forth by claim 1. The specification of Greiner '846 in pertinent part states "[a]ccording to the invention, a plastic bushing 40 is mounted on the outer circumference of the guide 36, such that it rests tightly on the guide 36." See col. 3, lines 16-18. This means that the bushing (40) of Greiner '846 is not supported at least one flying buttress as state in claim 1. Furthermore, Greiner '846 teaches, *inter alia*, that the lower end of the plastic bushing, remote from the knife edge 42, is engaged by a spring 44, embodied for example as a helical spring, which urges the plastic bushing 40 toward the core end face 39. Col. 3, Lines 29-33. This is further evidence that what the office action calls the feed supply tube 40 is not supported by a flying buttress structure. Removal of the rejection of claim 1 is respectfully requested.

Claim 9 is dependent upon claim 1, and is likewise allowable over the applied art, taken singly or in combination since the claim includes all of the subject matter of the base claim, which is believed to be in condition for allowance. Withdrawal of the rejection is respectfully requested.

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Greiner '846 in view of U.S. Patent 6,029,703 issued to Erickson et al. (hereafter Erickson '703).

The Office Action states that it would have been obvious to employ a molded bobbin in the modified Greiner valve in view of Erickson for cost effective manufacturing of the bobbin. The Office Action also states that it would have been obvious to employ radially stepped inner diameters on at least one of the coils and the associated bobbins accommodating a portion/flux tube of the casing member in the modified Greiner valve in view of Erickson for improved precision in the location of the bobbin within the valve housing.

Claim 2 and 3 which contain the limitations of claim 1 recite, *inter alia*, a valve receiving chamber formed by said valve seat portion and said valve seat receiving area with the valve positioned in the valve receiving chamber. See claim 1. As discussed above, Greiner '846 does not teach or suggest a valve receiving chamber formed by a valve seat portion and a valve seat receiving area, nor does Greiner '846 teach or suggest a valve positioned in the valve receiving chamber. Erickson '703 must teach or suggest these deficiencies of Greiner '846 or the proposed combination will fall.

Erickson '703 teaches that a valve body 20 defines an internal bore 70 extending through the hydraulic portion 14. *Col. 4, Lines 27-28.* Erickson '703 also teaches that a spool valve 72 is positioned within the bore 70 and is axially movable therein. The spool valve 72 defines an axial spool valve chamber 74 extending the length of the spool valve 72. *Col. 4, Lines 28-31.* Additionally, Erickson '703 teaches that the spool valve 72 includes an upper land 98, a lower land 100, and a narrow body portion 102 positioned between and connecting the upper land 98 and the lower land 100. *Col. 4, 63-66.* Erickson' 703 does not teach or suggest a valve receiving chamber formed by a

valve seat portion and a valve seat receiving area, as required by claims 2 and 3. The type of valve used in Erickson '703 is a spool valve which does not use a feed supply tube, or a valve seat portion. Additionally, Erickson '703 does not show a feed supply tube supported by at least one flying buttress structure, which is also included in claims 2 and 3 of the present invention. Therefore, Applicant submits that Greiner '846 in view of Erickson '703 does not teach or suggest the combinations of the elements of claims 2 and 3, and respectfully requests removal of the rejection of claims 2 and 3 and allowance thereof.

Claims 16-18, 20, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,998,559 issued to McAuliffe, Jr. (hereafter McAuliffe '559) in view of Erickson '703.

The Office Action states that regarding the McAuliffe '559 patent, it would have been obvious to make the valve seat portion from plastic, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. The Office Action also stated that it would have been obvious to employ radially stepped inner diameters on at least one of the coils and the associated bobbins accommodating a portion/flux tube of the casing member in the McAuliffe valve in view of Erickson for improved precision in the location of the bobbin within the valve housing, and the it also would have been obvious to maintain a tolerance of .025 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involved only routine skill in the art.

Claim 16 of the present invention sets forth, *inter alia*, the features of a feed supply tube including a valve seat receiving area, and a valve seat portion made of a plastic material and press fit onto said valve seat receiving area. Claim 16 also includes

the features of a valve receiving chamber formed by said valve seat portion and said valve seat receiving area, as well as the feed supply tube being supported by at least one flying buttress structure. McAuliffe '559 in view of Erickson '703 do not teach or suggest these limitations. McAuliffe '559 teaches a valve body fixedly mounted within a central bore 172 extending vertically through lower housing member 142. A fluted valve stem 174 is slidably received within the upper portion of a bore 176 extending coaxially through valve body 10. *Col. 6, Lines 50-54.* McAuliffe '559 does not teach or suggest a feed supply tube including a valve seat receiving area as set forth by claim 16 because there is no feed supply tube taught or suggested by McAuliffe '559. McAuliffe '559 also does not teach or suggest a valve receiving chamber. McAuliffe '559 has a bore which receives a fluted valve stem, not a feed supply tube. Erickson '703 must teach or suggest these deficiencies in McAuliffe '559, or the rejection will fall.

Erickson '703 does not make up for the deficiencies of McAuliffe '559. As previously stated, Erickson' 703 does not teach or suggest a feed supply tube including an inner bore forming a pressure supply passage, or a valve receiving chamber. These elements are included in claim 16 of the present invention. The type of valve used in Erickson '703 is a spool valve which does not use a feed supply tube or a valve receiving chamber, as recited by claim 16 of the present invention. The combined teachings of McAuliffe '559 in view of Erickson '703 fail to teach or suggest the combination of elements set fourth in claim 16 of the present application.

Claims 17, 18, 20, and 21 are all dependent upon claim 16, and are likewise allowable over the applied art, taken singly or in combination since they include all of the subject matter of the base claims, which are believed to be in condition for allowance. Withdrawal of the rejection is respectfully requested.

CONCLUSION

It is respectfully submitted that in view of the above amendments and remarks the claims 1-21, as presented, are patentably distinguishable because the cited patents, whether taken alone or in combination, do not teach, suggest or render obvious, the present invention. Therefore, Applicant submits that the pending claims are properly allowable, which allowance is respectfully requested.

The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 364-4300 if any unresolved matters remain.

Respectfully submitted,

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